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SUBJECT: CANADA: WI-FI SURVEY RESULTS

REFTEL: STATE 85946

WE SOLICITED RESPONSES TO THE REFTEL SURVEY FROM INDUSTRY CANADA'S DIRECTOR FOR SPECTRUM AND RADIO POLICY FERNAND LEGER. THE RESPONSES ARE LETTERED ACCORDING TO THE QUESTIONS LISTED IN REFTEL:

A) Canada has designated several bands for license-exempt operations including those currently of interest to Wi-Fi (802.11 b/a/g standards and similar wireless communication products (i.e. the 2.4 GHz and 5 GHz.)

The band 2400-2483.5 MHz is available for a wide variety of license-exempt applications and products including Wi-Fi (802.11b standard) and higher power point-to-point communications systems using directional antennas. The Industry Canada (IC) rules for 2.4 GHz ([strategis.ic.gc.ca/SSG/sf01918e.html](http://strategis.ic.gc.ca/SSG/sf01918e.html)) and 5 GHz ([strategis.ic.gc.ca/SSG/sf01915e.html](http://strategis.ic.gc.ca/SSG/sf01915e.html)) spectrum designations align with the FCC Part 15 Rules.

In Canada the designations for wireless LANS are:

- band 5150-5250 MHz - lower (relatively) power devices to operate indoors (200 mW eirp max)
- band 5250-5350 MHz - medium power, outdoor operation is allowed (250 mW tx pwr, 1W eirp/11 dBm/MHz)
- band 5725-5825 MHz - higher power, outdoor operation is allowed (1 W tx pwr, 4W eirp/17 dBm/MHz)
- band 5725-5850 MHz - devices are allowed to operate point-to-point with directional antennas. This band is also designated for a range of lower power license-exempt devices. The technical rules for operation and certification of equipment are detailed in the Canadian Radio Standard Specifications (RSS) 210 ([strategis.ic.gc.ca/SSG/sf01320e.html](http://strategis.ic.gc.ca/SSG/sf01320e.html))

General information on the Government of Canada's (GOC) spectrum policies can be found at:  
[//strategis.ic.gc.ca/sc\\_mrksv/spectrum/engdoc /spect1.html?icsservices=e.\\_](http://strategis.ic.gc.ca/sc_mrksv/spectrum/engdoc /spect1.html?icsservices=e._)

B) License-exempt operation of equipment certified as Wi-Fi (802.11) is permitted in bands designated in the 2.4 GHz and 5 GHz ranges.

C) Commercial applications of Wi-Fi systems are permitted and encouraged. License-exempt devices may constitute transmission facilities to provide public telecommunications services as defined in the Canadian Telecommunications Act. Operators of license-exempt transmission links may need to seek approval for antennas and tower structures, and follow Industry Canada's procedures for use of radio spectrum.

D) With the phenomenal uptake of Wi-Fi products to access high-speed Internet by consumer and business users, a number of traditional wireline and wireless carriers, new service providers and ISPs offering high-speed Internet have accelerated market trials for both Wi-Fi public hotspots and use of Wi-Fi for providing high-speed Internet access in urban areas. Interest in providing high-speed Internet service using Wi-Fi technology is also emerging in rural areas and sub-urban areas, where the potential of interference is relatively low.

E and F) Private service providers are becoming increasingly interested in using Wi-Fi products with more directive antennas that provide longer reach to customers in rural communities and surrounding areas. A number of rural communities have access to high speed Internet using a range of technologies including license-exempt products such as Wi-Fi access. Wi-Fi is used in schools, libraries, and health centers and governments offices in rural communities. Information on Canadian wireless ISP's can be found at:  
[www.onelassvegas.com/wireless/wireless\\_ISP\\_Canada.html](http://www.onelassvegas.com/wireless/wireless_ISP_Canada.html)

Fixed wireless access technology, of all kinds, is an important element of the GOC objective to enable the development of a range of broadband Internet access technologies to provide for under-served rural communities. Industry Canada has a Broadband Pilot Program ([www.broadband.gc.ca/index\\_e.asp](http://www.broadband.gc.ca/index_e.asp)) aimed at encouraging the development of broadband services in a

number of rural and remote communities that are currently not served by high-speed Internet. Several rural communities have been provided financing to carry out business studies and seek requests for proposals to establish the cost of transport systems (where required) and local broadband access facilities using a mixture of wireline\wireless technologies, including fibre optics, digital microwave systems and satellite transmission. In the next phase of the program the communities will present business and technical plans as part of their applications to Industry Canada for financial assistance to implement broadband service. Industry Canada anticipates that some of these applications will use wireline\wireless facilities. This will include licensed and license-exempt local distribution facilities, including Wi-Fi technology.

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